

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of the Claims

Claims 1-2 (Cancelled)

3. (Currently Amended) A method for the measurement of differential heat flux, said method comprising the steps of:
- (a) providing a heat transfer reference surface;
  - (b) providing a heat transfer fouling surface;
  - (c) providing a heat transfer path capable of transferring heat flux between said reference surface and said fouling surface;
  - (d) providing a pair of heat flux sensors, one of said sensors connected to said reference surface and the other one of said sensors connected to said fouling surface ~~for measuring differential heat flux data across said heat transfer path~~;
  - (e) measuring heat flux values from each said sensor;
  - (f) calculating differential heat flux data across said heat transfer path from said heat flux values; and
  - (g) ~~(e)~~ utilizing said differential heat flux data to detect and quantify deposit accumulation at said fouling surface.

4. (Original) The method of claim 3 wherein said differential heat flux data is calculated according to the formula  $\Delta Q_t = Q_r - C \cdot Q_f$ .

5. (Currently Amended) The method of claim 3 wherein cleaning of said reference surface is provided by mechanical brushing.

6. (Currently Amended) The method of claim 4 wherein cleaning of said reference surface is provided by mechanical brushing.

7. (Currently Amended) The method of claim 3 wherein sonic waves are used to keep said reference surface clean ~~is provided by sonic waves~~.

8. (Currently Amended) The method of claim 4 wherein sonic waves are used to keep said reference surface clean ~~is provided by sonic waves~~.

Claims 9-10 (Cancelled)

11. (Currently Amended) The method of claim 3 wherein said reference surface is kept clean ~~provided by~~ adding a solution to fluid exiting from said fouling surface ~~a non-fouling fluid~~.

12. (Cancelled)

13. (Currently Amended) The method of claim 11 wherein said solution ~~non-fouling fluid~~ is synthetic cooling fluid.

Claims 14-18 (Cancelled)

19. (Original) The method of claim 3 further comprising the steps of:

(a) generating a signal indicative of said heat flux data;

(b) transmitting said signal to a microprocessor which continuously calculates, records, and displays said heat flux data.

20. (Original) The method of claim 4 further comprising the steps of:

- (a) generating a signal indicative of said heat flux data;
- (b) transmitting said signal to a microprocessor which continuously calculates, records, and displays said heat flux data.

21. (Original) The method of claim 5 further comprising the steps of:

- (a) generating a signal indicative of said heat flux data;
- (b) transmitting said signal to a microprocessor which continuously calculates, records, and displays said heat flux data.

22. (Original) The method of claim 6 further comprising the steps of:

- (a) generating a signal indicative of said heat flux data;
- (b) transmitting said signal to a microprocessor which continuously calculates, records, and displays said heat flux data.

23. (Original) The method of claim 7 further comprising the steps of:

- (a) generating a signal indicative of said heat flux data;
- (b) transmitting said signal to a microprocessor which continuously calculates, records, and displays said heat flux data.

24. (Original) The method of claim 8 further comprising the steps of:

- (a) generating a signal indicative of said heat flux data;
- (b) transmitting said signal to a microprocessor which continuously calculates, records, and displays said heat flux data.

Claims 25-26 (Cancelled)

27. (Original) The method of claim 11 further comprising the steps of:

- (a) generating a signal indicative of said heat flux data;
- (b) transmitting said signal to a microprocessor which continuously calculates, records, and displays said heat flux data.

28. (Cancelled)

29. (Original) The method of claim 13 further comprising the steps of:

- (a) generating a signal indicative of said heat flux data;
- (b) transmitting said signal to a microprocessor which continuously calculates, records, and displays said heat flux data.

Claims 30-34 (Cancelled)

35. (Previously Added) The method of claim 3 wherein said heat flux sensors are thin-film heat flux sensors.

36. (Previously Added) The method of claim 3 wherein said heat flux sensors are responsive to heat energy at said reference surface and said fouling surface.

37. (New) The method of claim 3 wherein said reference surface is kept clean by generation of acids or oxidizing reagents with electrochemical cells.

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38. (New) The method of claim 11, wherein said solution is an acid or chemical which prevents bio-fouling or mineral deposition.